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MONTHLY REPORT

1 September 1957 - 30 September 1957

RESEARCH AND DEVELOPMENT BRANCH
ENGINEERING DIVISION

RESEARCH AND DEVELOPMENT LABORATORY

1. PROJECTS AND ACTIVITIES

2001 - MECHANICAL LABORATORY PROJECTS

The following is a status report of Mechanical Laboratory assignments other than the support given to regularly assigned numbered projects;

2001-20 RS-11 Switch (rework) - 7 units required by R+D/EP, 20% complete.

2001-34 Mounting Rack for P33-4 - 28 units required by SEB, 50% complete.

2001 Miscellaneous - Spare Ring, one unit for [redacted] Maintenance completed. 25X1A6a

2004 - COMMERCIAL EQUIPMENT EVALUATION

2004-101B Recheck of The RR/B-11 Receiver Performance 25X1A9a
Project Engineer: [redacted]

(Reference summary of the test of the RS/B-11 Radio Set dated 25 July 57.) As described in the referenced summary, the RR/B-11 Receiver failed to meet the specifications on HFO drift, sensitivity, selectivity and calibration; however, after initial repair and readjustment of the HFO trimmers, the receiver operated satisfactorily except that it did not meet the bandwidth and selectivity specifications.

2004-101D RR/D-11
Project Engineer: [redacted] 25X1A9a

This receiver is designed to cover the frequency range from 3-30 megacycles using two tuners and is an integral part of the RS-11 Radio Set. Except for the dual tuner, a common IF, and audio strip mounted in one case, the RR/D-11 is comparable in performance, construction and layout to the RR/AA-11 and the RR/BB-11. As in the case of the latter receivers, the calibration and resettability of the tuning dial constitute the major shortcomings of the set.

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2004-129 Extension of the TINY TOT Radiation Test
Project Engineer: [redacted] 25X1A9a

An extension of the TINY TOT radiation test to determine the reduction in inductive radiation above 30 kc by shielding the selector magnets indicates that no appreciable reduction can be accomplished by this shielding. However, a reduction of inductive radiation of approximately 60% of the transmitter distributors and 30% of the keyboard was realized at 15 kc.

25X1A6a

2007-6 [redacted] CV-1 AND CV-2 OPERATIONAL CHECK 25X1A9a
Project Engineer: [redacted]

25X1A6a

Installation of transistors in the [redacted] CV-1 and CV-2 Converters was made and the unit checked for proper operation. The [redacted] CV-1 and CV-2 were sent to O&T for examination. 25X1A6a

2007-8 ANTENNA IMPEDANCE MEASUREMENTS 25X1A9a
Project Engineer: [redacted]

A series of impedance measurements on 10, 20, 30 and 76 foot horizontal and 10, 20, and 30 foot vertical antennas was completed during this period. The measurements were also made on a 30 foot vertical antenna in spiral form that required 76 feet of wire. The results obtained revealed differences in theoretical and practical values for antenna lengths of less than one quarter wave. Resistances measured ran higher than theoretically predicted for this area and the phase angle was greater than 45 degrees in numerous cases.

2045-4 AUTOMATIC TAPE PRINTER, TP-3 PROTOTYPE 25X1A9a
Project Engineer: [redacted]

A trip was made to the motor manufacturer's plant to determine the status of the DC motor. Ten motors for the TP-3 production run can be made available in approximately two weeks after final decision as to acceptable characteristics has been reached. See attached Trip Report dated 30 Sept. 1957.

2045-5 AUTOMATIC TAPE PRINTER - FABRICATION PROGRAM 25X1A9a
Project Engineer: [redacted]

Delivery of the last two production castings is scheduled for early next period. The procurement of electronic components is 98% complete. Motor delivery still remains the major factor in meeting the November 1st deadline.

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2069-1 RR-11 NOISE LIMITER
Project Engineer: [redacted] 25X1A9a

A recent circuit using new silicon junction diodes appears to be adequate for clipping transit noise peaks generated by industrial and domestic equipment and automobile ignition systems. This circuit is superior to previous circuits in that clipping rather than limiting is obtained. Further advantages are the negligible insertion loss, component size and quantity(1 diode), suitability for miniature receivers and lack of bias requirement. One major disadvantage of this type equipment is that the clipping level is not adjustable.

2510 AUDIO OSCILLATOR, IN-1X
Project Engineer: [redacted] 25X1A9a

Electrical design has been completed. Awaiting delivery of components for prototype production.

2512-3 HIGH FREQUENCY CONVERTER, CV-2
Project Engineer: [redacted] 25X1A9a

Three high frequency converters have been completed. Five [redacted] capacitors have been ordered for the CV-2A converter. 25X1A5a1

2512 TRANSMITTER ADAPTOR MODIFICATION (A-3 EMISSION)
Project Engineer: [redacted] 25X1A9a

The TA-1 (A-3) adaptor is being packaged.

2517-1 FIXED FREQUENCY REFERENCE OSCILLATOR (IN-3)
Project Engineer: [redacted] 25X1A9a

Inactive during this period.

2519-1 INVESTIGATION OF SECRET COMMUNICATION BY [redacted] 25X1C
Project Engineer: None assigned

Inactive - project unassigned.

2520 REFINEMENTS FOR A CODE PRACTICE OSCILLATOR USING A REVERE MODEL T-1100 RECORDER Project Engineer: None assigned

Inactive during this period.

2521 MODIFICATION OF STROMBERG-CARLSON RECEIVER (ELINT) 25X1A9a
Project Engineer: [redacted]

A complete breadboard including video amplifier, pulse stretcher, and

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audio amplifier based on the characteristics of the Minifon Recorder is under construction. All necessary antennas are either on order or have been fabricated. Two filters in the 50 to 400 mc range are yet to be furnished.

2523-2 TRANSISTORIZED APERIODIC RECEIVER, CR-1B 25X1A9a
Project Engineer: [redacted]

The production prototype has been delivered to R&D. Twelve production units are in process and are scheduled for completion during the next period.

2629 IMPROVEMENT OF DIRECTION FINDING CAPABILITIES OF ANTENNA FOR STROMBERG-CARLSON AWP-8 RECEIVER Project Engineer: [redacted] 25X1A9a

The prototype is being field evaluated by OSI. Additional liaison is planned for the next period.

[redacted] 25X1A9a

Chief, Research & Development Laboratory
Acting

ATTACHMENTS:
30 Sept. 57 Trip Report -
25X1A5a1 [redacted]